Work Order ID 96808

96808

February 5, 2013 11:45:41 AM

Item ID: D6201 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: "T" Extrusion

27

Start Date: 2/05/13 **Start Qty:** 20.00 ~~*20*~~

Required Date: 2/11/13 **Req'd Qty:** 20.00 *20*

Cust Item ID:

Customer:

Reference:

Run Start *NR1*

Approvals: **Process Plan:** **Date:** **Tooling:** **Date:**

Stop *NR2*

QC: **Date:** **SPC (Y/N):** **Date:**

Work Center ID	Description	Run Hours	Tool #	Plan Code	Qty	Reject Qty	Reject Number	Insp. Stamp

Draw Nbr	Revision Nbr
D6201	Rev A

100 0.00

100

Purchasing PURCHASING

Purchasing

Memo 0.00

Issue P/O: 9032 a)Description: T-beam extrusionb) 4.00" x 4.00" x 0.375" c) Minimum Ultimate Tensile Strength = 38ksid) Minimum Yield Tensile stength = 35ksi e) Material: 6061-T6/T6511 (QQ-A-200/8)

f)Material certification required

CL 13/02/06 27f+

110 Receive & Inspect for Damage & Mat'l Certs 0.00

110

Packaging

Packaging

Memo 0.00

Ensure material certification is attached

13/2/11 20

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric to O/S
- ☐ Cracks
- ☐ Crushed/Crimped
- ☐ Cuffs
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Ripples in Bend
- ☐ Torque Waves in Extrusion
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damaged
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Ovalized
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

Work Order ID 96808

96808

February 5, 2013 11:45:41 AM

Item ID: D6201 **Accept** *N9000040100* **Setup Start** *NS1*
Revision ID: **Stop** *NS2*
Item Name: "T" Extrusion

Start Date: 2/05/13 **Start Qty:** 20.00 *20*
Required Date: 2/11/13 **Req'd Qty:** 20.00 *20*
Reference:

Cust Item ID:
Customer:

Run Start *NR1*
Stop *NR2*

Approvals: **Process Plan:** **Date:** **Tooling:** **Date:**
QC: **Date:** **SPC (Y/N):** **Date:**

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC6- Inspect dimensions to drawing	0.00							
120									
QC	**Memo**	0.00							
Quality Control	Ensure Material certification comply to Dwg D6104								
			OK 13/02/13			20	0		
130	Identify as per dwg & Stock Location: MAT 28	0.00							
130									
Packaging	**Memo**	0.00							
Packaging			OK 13/02/13			20	0		
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	**Memo**	0.00							
Quality Control									

13/2/14

MLS 13-02-13

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

☐ Bending
☐ Centre Not Concentric to O/S
☐ Cracks
☐ Crushed/Crimped
☐ Cuffs
☐ Heat Treat
☐ Inspection Strip in Tube
☐ Ripples in Bend
☐ Torque Waves in Extrusion
☐ Turning Sequence
☐ Wave/Twist in Tube

General

☐ Bend
☐ BOM/Route
☐ Broken/Damaged
☐ Burrs
☐ Contamination
☐ Countersink
☐ Cut Too Short
☐ Drill Holes
☐ Drawing
☐ Finish
☐ Folio
☐ Grain
☐ Hardware
☐ Inspection Incomplete
☐ Instructions Incomplete/Unclear
☐ Maintenance
☐ Mislabeled
☐ Misread
☐ Offset
☐ Out of Calibration
☐ Out of Sequence
☐ Outside Dimensions
☐ Ovalized
☐ Over/Under tolerance
☐ Part Incorrect
☐ Part Lost/Missing
☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge
☐ Pressure/Forced
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled
☐ Other _____

Picklist Print

February 5, 2013 11:45:41 AM

Work Order ID: 96808

Parent Item: D6201

Parent Item Name: "T" Extrusion

Start Date: 2/05/13 **Required Date:** 2/11/13

Start Qty: 20.00 **Required Qty:** 20.00

Comments: IPP A: 01.05.15New Issue EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6201P T Extrusion 4X4X3/8		Purchased	No			110	f	0.0000	1	~~20~~ 27			

43/2/11 (20)

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐
- ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data										
Equip/Tooling										
Operator										
Material										
Setup										
Other										
Process										
Supplier										
Training										
Unapproved										

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric to O/S
- ☐ Cracks
- ☐ Crushed/Crimped
- ☐ Cuffs
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- ☐ Inspection Strip in Tube
- ☐ Ripples in Bend
- ☐ Torque Waves in Extrusion
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
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- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Ovalized
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

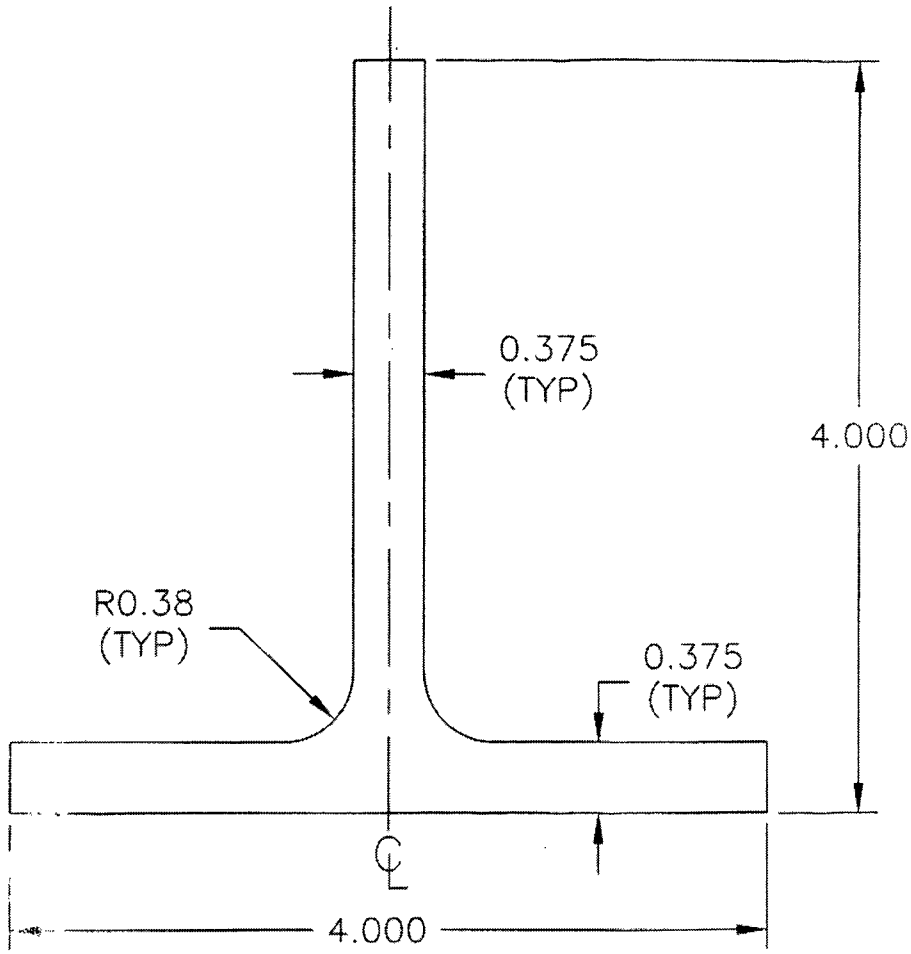
DESIGN CP	DRAWN BY CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D6201	REV. A SHEET 1 OF 1
DATE 01.04.10		TITLE T-BEAM EXTRUSION	SCALE 1:1
A	01.04.10	NEW ISSUE	

SPECIFICATION CONTROL DRAWING

RELEASED
01.04.23

CL13102105

W10.96808



D6201-XXX T-BEAM EXTRUSION
WHERE XXX IS LENGTH IN INCHES

EG.
D6201-027 IS 27 INCHES LONG

PURCHASE MATERIAL: ALUMINUM "T"-EXTRUSION ROUND FILLET
4.000" x 4.000" x 0.375"
6061-T6/T6511 (QQ-A-200/8)
MINIMUM ULTIMATE TENSILE STRENGTH = 38 ksi
MINIMUM YIELD TENSILE STRENGTH = 35 ksi

TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

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DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

- ☐ Bending
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- ☐ Turning Sequence
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- ☐ Part Lost/Missing
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- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

B I L L O F L A D I N G

No: PEC 807045

Ship From:
THYSSENKRUPP MATERIALS NA
2821 LANGSTAFF ROAD
CONCORD, ONTARIO L4K 5C6
Tel: 905 669 9444 Fax: 905-738-9033

Ship Date 08Feb13 at 12:46 From PFW
Probill
Via VIM TRANSFER
FOB CONCORD
Frt PREPAID
Route 0- 0 Manifest
Vhcle Trailer
Slp STAN IVERS (905-532-1350)
Sold To: (20115)
DART AEROSPACE

Ship To: (1)
DART AEROSPACE

B I L L O F L A D I N G

Heat Number	Tag No	Quantity	PCS	Wt LBS
12120191B	148752	63 FT	3	8

6) Our Order PEC-534750- 6 Your PO # 19032
ALUMINUM TEES 6061 T6
4.00" x 4.00" x .375" X 240.0000"
NEED TO CONFIRM THE DIM.. WILL ADVISE

Heat Number	Tag No	Quantity	PCS	Wt LBS
21118019	148915	20 FT	1	69

	Tags	PCS	LBS
TOTAL:	6	19	1280

Heat Number *** Chemical Analysis ***
12120191B
18642
21118019
28870/01/00
434951
SF30003

MILL TEST REPORTS, PACKING SLIPS ARE TO SENT WITH
MATERIAL AND FAXED TO THE CUSTOMER PRIOR
TO SHIPPING.
ATTN: CHANTAL/LINDA
** ALL PACKING SLIPS MUST HAVE THE HEAT NUMBER **
** REFERENCED ON IT **
TOTAL 2 SKIDS 2 BDLS G.W 1563 LBS

*CUSTOMER PICK-UP HRS AT THYSSENKRUPP MATERIALS NA
CONCORD, ONT.* *** 9:00 AM TO 4:00 PM ***
**** TEL. 800-926-2600 ****

* WE STOCK STAINLESS STEEL *

TOUTES ERREURS ET/OU MARCHANDISES MANQUANTES DOIVENT ETRE RAPPORTEES IMMEDIATEMENT
ERRORS OR SHORTAGE MUST BE REPORTED IMMEDIATELY
RETOUR DE MARCHANDISES AVEC NOTRE NUMERO D'APPROBATION SEULEMENT
MERCHANDISE MAY NOT BE RETURNED WITHOUT OUR APPROVAL NUMBER

REÇU EN BONNE CONDITIONS / RECEIVED IN GOOD CONDITION

13/2/11
DATE

DART aerospace
Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO19032

Purchase Order Date 2/06/13
PO Print Date 2/06/13

Order From : VC-COP001

THYSSENKRUPP MATERIALS CA LTD
O/A VPK METAL- C/O T27540/PO BOX 4275,POSTAL"A"
TORONTO, ON M5W 5V8
CA

Contact Name		**Buyer**	Chantal Lavoie
Vendor Phone	905 669 9444	**Requisition Nbr**	
Vendor Fax	905 738 9033	**Tax Resale Nbr**	10127-2607
Vendor Account Nbr		**Terms**	Net 30
		Currency	CAD
		FOB	Destination-Collect

Special Inst: MATERIAL: 6061-T6/T651/T6510/6511T62 ALUMINUM BAR AS PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221

10	M6063T5A0.750W.063	Angle6063T5 .750 X.750 X.063w	2/15/13	63.00	Yours ppd	$0.4762	$30.00
			Yes	f			
11	D6201P	T Extrusion 4X4X3/8	2/15/13	27.20	Yours ppd	$9.9500	$270.67
			Yes	f			

OR 20

Special Inst: AS PER DWG D6201 REV. A
B96808
T-BEAM EXTRUSION SIZE: 4.000" X 4.000" X 0.375"
MINIMUM TENSILE STRENGTH = 38 KSI
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MATERIAL: 6061-T6/T6511 AS PER QQ-A-200/8

PO Total: **$4,824.28**

MATERIAL CERTIFICATION REQUIRED WITH DELIVERY

CL

No substitution or deviation without consent.
Certificate of Conformity or Material Certification required - YES NO

Change Nbr: 2 **Change Date:** 2/06/13

THYSSENKRUPP MATERIALS NA

DART AEROSPACE

ALUMINUM TEES 6061 T6
4.00" x 4.00" x .375" X 240.0000"
PART NO.

PO/Rel 19032

We certify that this is a true copy of the report furnished by the producer of the metal, or data resulting from tests made in approved labs.

Signed by: _____

Certificate of Mill Test Results

BL PEC-807045-006 8Feb13

sapa: Sapa Industrial Extrusions
53 POTTSVILLE STREET
--
CRESSONA, PA
17929-0187

Sapa Extrusions Inc., a Subsidiary of Sapa AB

Invoice To Customer
THYSSENKRUPP MATERIALS NA INC
2821 LANGSTAFF ROAD
ATTN: ACCOUNT PAYABLE
--
CONCORD, ON - L4K-5C6

Ship To Customer
THYSSENKRUPP MATERIALS NA INC
2821 LANGSTAFF ROAD
--
--
CONCORD, ON - L4K5C6

Certified Inspection Report

Cert Number	Page
SAPA591086	Page 1 of 2

Sales Order Number	Line No.	Customer P/O	Cert Creation Date	Cert Print Date
4100476533	1	PEC-239624	25-JUN-12	25-JUN-12

Quantity Shipped	Date Shipped	Item Description	Specification
1030 LB	25-JUN-12	Extruded Canadian Tee 4.000 W x 4.000 H x 0.375 TK x RAD .375 ICR SECT 760002 240 IN LN FIN M-MILL W/F 3.433 F 5 CS 5 6061/T6511 Marking CONTINUOUS;	ASTMB221 REV 12 AMS-QQ-A-200/8 REV ASMESB221 REV 09
H/L	Item No.		
339465	6003378661		
Delivery Id	Item No. Rev		
4330967	--		
CustomerPart No.			
760002			

Applicable Specifications, Revisions and Exceptions

COMPOSITION NOTE: The values for 'Others Each' and 'Others Total' have met the limits as shown on this certified inspection report. Remainder is Aluminum.

Legal Statement

We hereby certify that, unless otherwise indicated, the material [illegible] tested in accordance with, and has been found to meet, the applicable requirements [illegible] specifications forming a part of the description and that samples representative of the material met the composition and had the mechanical properties shown on the face of this certification. Also, note that mercury is not a normal contaminant in aluminum alloys and neither it nor any of its compounds are used in the manufacture of our product. This certification is not to be reproduced in partial form without prior written approval of our Quality Assurance Dept.

Signature And Title

William T. Martin, III

William Martin III — 25-JUN-12
Tech/Quality Manager

Quantities per Lot / Packages

Package Number	Lot Number	Quantity	UOM	Weight Gross	Weight Net
012-PKG1716109	21118019	11	PCS	763	755
012-PKG1716111	21118019	4	PCS	283	275

Composition Limits

Alloy	Si Min	Si Max	Fe Min	Fe Max	Cu Min	Cu Max	Mn Min	Mn Max	Mg Min	Mg Max	Cr Min	Cr Max	Zn Min	Zn Max
6061	0.40	0.80	---	0.70	0.15	0.40	---	0.15	0.80	1.20	0.04	0.35	---	0.25

THYSSENKRUPP MATERIALS NA

DART AEROSPACE

ALUMINUM TEES 6061 T6
4.00" x 4.00" x .375" X 240.0000"
PART NO.

PO/Rel 19032

We certify that this is a true copy of the report furnished by the producer of the metal, or data resulting from tests made in approved labs.

Signed by:_____

Certificate of Mill Test Results

BL PEC-807045-006 8Feb13
Pg 2/2

sapa:

Sapa Industrial Extrusions
53 POTTSVILLE STREET
--
CRESSONA, PA
17929-0187

Certified Inspection Report

Sales Order Number	Line No.	Customer P/O
1100476533	1	PEC 239624

Cert Number	Page
SAPA591086	Page 2 of 2
Cert Creation Date	**Cert Print Date**
25-JUN-12	25-JUN-12

Alloy	Ti		Bi		Pb		Others Each		Others Total	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
6061	---	0.15	---	0.05	---	0.05	---	0.05	---	0.15

Composition Results

Heat / Coil	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Bi	Pb	Others Each	Others Total	
5029114	0.71	0.53	0.25	0.05	0.93	0.05	0.07	0.02		--	--	--	

Mechanical Property - Test Limits

Test Type		UTS - L		TYS - L		El. 4D-Long		
		KSI		KSI		PCT		
		--		--		--		
Test Temper	Coil Number							
T6511	5111B019	0	43.2	43.2	40.5	40.5	16.6	16.6

Cert Notes

Products manufactured with a T6511 temper also meet T6 temper requirements.

Yield strength has been determined by the 0.2% offset method

All Mill Finish Alloys produced at Sapa Extrusions comply with 0.4% Maximum Lead per RoHS, with the exception of 6262 alloy

In accordance with EN 10204 Inspection Certificate Type 3.1

Melted in the USA or Other Qualified Countries as Defined by DFARS 225.872.1

Made in USA